

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
690 Walnut Ave.St. 150  
Vallejo, CA 94592-1133  
(707) 649-5453  
(707) 649-5493

Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-006463**Date Inspected:** 18-Apr-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 1845**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 645**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** See Below**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG and Tower Fabrication**Summary of Items Observed:**

CWI Inspector: Mr. Peng Guo

On this date CALTRANS OSM Quality Assurance (QA) Inspector, Mr. Paul Dawson, arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China, for the purpose of monitoring welding and fabrication of the San Francisco / Oakland Bay Bridge (SFOBB) components. The QA Inspector observed the following:

Prior to Caltrans QA Inspectors' concurring with issuance of OBG deck plate closed rib green tag releases a review of the ultrasonic inspection database is performed to verify all closed rib tack weld repair locations have been ultrasonically accepted. Today this QA Inspector, Mr. Paul Dawson, performed data entry of ultrasonic inspection information from the field generated Ultrasonic inspection data sheets onto the common drive computer database for the following OBG deck panels: DP335-001, DP119-002, DP254-001, DP364-001, DP389-001, DP471-001, DP393-001, DP282-001, DP471-001, DP313-001 and DP447-001.

**OBG Bay 5**

ZPMC QC representative Mr. Testino presented this QA Inspector, Mr. Paul Dawson, with "Inspection Notification Document" #02701 which states nine CTS4E1 (cable tray supports) are ready for Caltrans QA Inspectors to perform visual weld inspection in OBG bay #5. This QA Inspector accompanied Mr. Testino to bay #5 and this QA Inspector performed random observations of stiffener fillet welds on two of the cable tray supports and observed four locations where the welds have overlap or undercut. The QA Inspector informed Mr. Testino

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that ZPMC QC Inspectors should reinspect the other five cable tray support assemblies to ensure the remaining welds on cable tray supports do not have similar overlap and undercut problems. At approximately one hour later ZPMC QC personnel informed the QA Inspector that the cable tray support welds have been reinspected and that they are ready for Caltrans QA to perform visual inspections. The QA Inspector performed visual inspection of three additional cable tray supports and five welds were identified as having overlap and two welds with undercut were observed. At around 2130 hours Mr. Lay Tao informed the QA Inspector that ZPMC workers and the QC Inspectors in bay #5 are now going home for the day and that QA visual inspections should be resumed tomorrow. See the photographs below for additional information.

### OBG Bay 6

This QA Inspector performed random visual and magnetic particle (MT) inspections of OBG Edge plate welds EP161A-001, EP161A-001, EP142A-003, EP142A-004, EP141A-017, EP141A-020 and side plate welds SP666-001, SP666-002 and SP666-003. These welds had previously been MT inspected and accepted by ZPMC inspection personnel. The QA Inspector observed the welds that were MT inspected by this QA Inspector appear to comply with AWS D1.5 UT requirements. For additional information on these inspections see the TL6028 Magnetic Particle Test Report. Following completion of the MT inspections ABF representative Mr. Peng Wen Jun presented the QA Inspector with the following green tag releases: Edge plate EP161A, green tag 6495; Edge plate EP142A, green tag 6498; Edge plate EP141A, green tag 6499 and Side plate SP666, green tag 6501. The QA Inspector documented concurrence on each of the green tag documents.

### Tower Bay 10 and Bay 11

The QA Inspector observed ZPMC welder Mr. Cui Chunlei, stencil 205642 is using welding procedure specification WPS-B-T-4312-TC-P4 to complete shielded metal arc tack weld ESD1-FASA3-2B/E-2. The QA Inspector observed that the base material where the tack weld was made had been preheated with a torch and ZPMC QC personnel had verified the base material preheat prior to commencement of welding. The QA Inspector measured a welding current of 160 amps. Items observed by the QA Inspector appear to comply with project specifications.

The QA Inspector observed ZPMC welder Mr. Xu Hua, stencil 049220 is using flux cored welding procedure WPS B-T-2332-TC-P5-F to make stiffener plate to tower skin plate tack weld WDI-A25A-E-11. The QA Inspector observed the base material had been preheated using a torch, and ZPMC QC personnel verified adequate preheat prior to commencement of welding. The QA Inspector measured a welding current of approximately 300 amps and 32 volts. Items observed by this QA Inspector appear to be progressing in compliance with project specifications.

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### Summary of Conversations:

See above.

### Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang phone: 150-0042-2372 , who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Dawson,Paul	Quality Assurance Inspector
<b>Reviewed By:</b>	Clifford,William	QA Reviewer

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